Time Zones and Tide Streams with Poole Sailing



Time Zones

The world is divided, roughly along meridians of longitude, into different time zones. Because Greenwich meridian, zero longitude runs through the British Isles we are in the fortunate position of being in time zone Z, or Zulu. It used to be called Greenwich mean time but is now known as Co-ordinated Universal Time or UTC.

The Tide Table extract from the Almanac for Portsmouth below shows that Portsmouth is time zone UT, the UK's Standard Time. The times on the page are all UT times. They will equate to the time on our watches in winter but from March 26th onwards we will have to add one hour to the times shown so that the they equate to to the UK's daylight saving time called British Summer Time or BST.

Portsmouth tides

STANDARD TIME (UT) For Summer Time add ONE hour in non-shaded areas		PORTSMOUTH LAT 50°48'N LONG 1°0 TIMES AND HEIGHTS OF HIGH AND LOW WATERS				
JANI. Time m	JARY Time m	FEE Time m	RUARY Time m	MARCH Time m Tir		
1 0350 4.3 0853 1.7 F 1556 4.0 2112 1.7	16 0352 4.6 0852 1.2 5A 1607 4.3 0 2118 1.2	1 0425 4.1 0933 1.8 M 1644 3.8 0 2158 1.8	16 0527 4.2 1049 1.5 TU 1757 4.0 2329 1.6	1 0343 4.1 0849 1.5 TU 1604 3.9 0 2111 1.6 25		
2 0433 4.1 0945 1.9 5A 1645 3.9 0 2209 1.9	17 0452 4.4 0956 1.4 50 1712 4.2 2228 1.4	2 0516 3.9 1036 1.9 TU 1745 3.7 2312 2.0	17 0634 4.1 1213 1.6 W 1909 3.9	2 0433 3.9 0942 1.7 W 1700 3.7 2211 1.9 17 06 11 17 06 11 11 14 16		
3 0522 4.0 1059 2.0 5U 1747 3.7 2326 2.0	18 0553 4.3 1118 1.6 M 1818 4.1 2352 1.6	3 0621 3.8 1204 2.0 W 1932 3.6	18 0045 1.7 0742 4.1 TH 1321 1.5 2020 4.0	3 0533 3.7 1055 1.9 TH 1814 3.6 F 12 2347 2.0 20		
4 0626 3.9 1210 2.0 M 1913 3.7	19 0657 4.3 1235 1.6 TU 1926 4.1	4 0040 2.0 0803 3.9 TH 1318 1.8 2052 3.8	19 0149 1.6 0845 4.1 F 1419 1.3 2127 4.2	4 0655 3.7 1241 1.9 F 2014 3.8 5A 13 21		
5 0030 1.9 0746 4.0 TU 1307 1.9 2025 3.8	20 0101 1.5 0801 4.3 W 1338 1.4 2030 4.2	5 0143 1.8 0906 4.1 F 1414 1.5 2141 4.1	20 0244 1.4 0938 4.3 SA 1509 1.1 2218 4.3	5 0118 1.9 0831 3.9 5A 1348 1.6 2110 4.0 22		
6 0124 1.8 0847 4.1 W 1356 1.7 2121 4.0	21 0202 1.4 0859 4.4 TH 1433 1.2 2131 4.3	6 0237 1.5 0950 4.3 SA 1503 1.2 2221 4.3	21 0331 1.2 1022 4.4 5U 1554 0.9 2255 4.4	6 0216 1.5 0920 4.2 SU 1441 1.2 2151 4.3 22		
7 0213 1.7 0936 4.3 TH 1441 1.4 2207 4.2	22 0255 1.3 0951 4.5 F 1523 1.0 2224 4.4	7 0325 1.2 1028 4.5 5U 1549 0.9	22 0415 1.0 1102 4.5 M 1635 0.7	7 0306 1.2 1001 4.5 M 1528 0.8 TU 16 TU 16		

The Almanac extract for Cherbourg shows that France is in time zone UT-1. That means that you must subtract 1 hour from the times shown on the page to turn them into UT times. So French Standard time is one hour ahead of the UK standard time. France also changes to Daylight Savings time on March 26th therefore, French Summer time is still one hour ahead of British Summer time but two hours ahead of UT.

	Cherbou	rg tides			F		
STANDARD T Subtract 1 h For French Sum ONE hour in nor	IME UT -01 our for UT mer Time add -shaded areas	CHER TIME	BOURG LA	IT 49°39'N LON High and Low W <i>a</i>	G 1°38'W NTERS	Dates i Dates i	n red are SPRINGS n blue are NEAPS YEAR 2016
N Time m	IAY Time m	JL Time m	INE Time m	Jl Timo m	JLY Timo m	AU	GUST
1 0249 5.0 0952 2.4 50 1549 5.0 2238 2.6	16 0436 5.0 1137 2.4 M 1726 5.1	1 0457 5.5 1147 1.8 W 1739 5.7	16 0014 2.5 0548 5.1 TH 1238 2.3 1821 5.4	0537 5.6 1226 1.8 F 1812 5.8	16 0024 2.5 0601 5.0 SA 1248 2.5 1831 5.4	1 0153 1.6 0731 5.9 M 1416 1.7 1951 6.1	100 0135 2.1 16 0716 5.5 TU 1358 2.0 1935 5.9
2 0423 5.1 1113 2.2 M 1711 5.3 2353 2.2	17 0008 2.5 0541 5.2 TU 1234 2.2 1818 5.4	2 0024 1.9 0601 5.8 1H 1251 1.5 1835 6.0	17 0106 2.3 0641 5.3 F 1327 2.1 1906 5.6	2 0103 1.7 0641 5.8 SA 1329 1.6 1909 6.1	17 0117 2.3 0656 5.3 SU 1338 2.2 1918 5.6	2 0248 1.4 0825 6.1 TU 1508 1.5 2 2039 6.3	17 0221 1.7 0801 5.9 W 1443 1.7 2018 6.2
3 0532 5.5 1221 1.8 TU 1811 5.7	18 0101 2.2 0634 5.4 W 1323 2.0 1902 5.6	3 0124 1.5 0659 6.1 F 1349 1.3 1928 6.3	18 0151 2.0 0727 5.5 SA 1410 2.0 1947 5.8	3 0204 1.4 0740 6.1 SU 1427 1.4 2002 6.3	18 0203 2.0 0742 5.6 M 1423 2.0 2000 5.9	3 0336 1.2 0911 6.2 W 1552 1.4 2121 6.4	18 0306, 1.3 0843 6.2 TH 1526 1.4 O 2059 6.5
4 0055 1.8 0630 5.9 W 1320 1.4	19 0146 2.0 0718 5.6 TH 1405 1.8	4 0220 1.2 0755 6.3 SA 1444 1.1	19 0232 1.8 0808 5.7 SU 1449 1.8	4 0259 1.2 0834 6.2 M 1520 1.3	19 0246 1.7 0824 5.8 TU 1505 1.8	4 0418 1.1 0951 6.3 TH 1632 1.3	19 0348 1.1 0924 6.4 F 1608 1.2

Time Zones

It is easy to think that the time zones don't matter much but take a look at this example.

We are leaving the UK on June 3rd heading for St. Vaast in Normandy. We know that the Gates to the harbour at St. Vaast are tide dependent and we have a table reserved at a restaurant for nine pm. From the Tide Table opposite we can see that High Water at Cherbourg will be at 19.28 UT-1 on Friday June 3rd. We need to look at the detail for St. Vaast in the almanac.

STANDARD TIME UT -01 Subtract 1 hour for UT For French Summer Time add ONE hour in non-shaded areas CHERBOURG LA

TIMES AND HEIGHTS OF H

MAY	JUNE			
Time m Time m	Time m Time m			
1 0249 5.0	1 0457 5.5			
0952 2.4	1147 1.8			
5U 1549 5.0	W 1739 5.7			
2238 2.6	16 0014 2.5			
16 0436 5.0	0548 5.1			
1137 2.4	TH 1238 2.3			
M 1726 5.1	1821 5.4			
2 0423 5.1	2 0024 1.9			
1113 2.2	0601 5.8			
M 1711 5.3	TH 1251 1.5			
2353 2.2	1835 6.0			
17 0008 2.5	17 0106 2.3			
0541 5.2	0641 5.3			
TU 1234 2.2	F 1327 2.1			
1818 5.4	1906 5.6			
3 0532 5.5 1221 1.8 TU 1811 5.7 18 0101 2.2 0634 5.4 W 1323 2.0 1902 5.6	3 0124 1.5 0659 6.1 F 1349 1.3 1928 6.3 18 0151 2.0 0727 5.5 SA 1410 2.0 1947 5.8			
4 0055 1.8	4 0220 1.2			
0630 5.9	0755 6.3			
W 1320 1.4	SA 1444 1.1			
1903 6.1	2019 6.5			
19 0146 2.0	19 0232 1.8			
TH 1405 1.8	SU 1449 1.8			
1941 5.8	2025 6.0			
5 0150 1.3 0724 6.3 TH 1414 1.0 1953 6.5 20 0226 1.8 F 1443 1.7 2017 6.0	5 0314 1.0 0847 6.5 SU 1535 1.0 2108 6.6 20 0310 1.6 0846 5.8 M 1526 1.7 O 2100 6.1			
6 0243 1.0	6 0404 0.8			
0816 6.6	0937 6.5			
F 1505 0.8	M 1623 1.0			
• 2041 6.7	2154 6.6			
21 0302 1.6	21 0348 1.5			
0835 5.9	0922 5.9			
SA 1517 1.6	TU 1604 1.6			
O 2051 6.1	2136 6.2			

Time Zones

We can see from the almanac that given a Cherbourg HW at 19.28, the local High Water at St. Vaast will be 56 minutes later at 20.24. But that is in Time Zone UT-1, so we must add one hour to turn that into local, French Summer Time. Therefore HW St. Vaast will be at 21.24 French Summer time. The almanac also says that the Harbour Gate will open at HW – 2hrs 15mins. and then close at HW + 3hrs 30mins. So we can expect the gate to open at 19.09 and close at 00.54.

Of course we are approaching the harbour with our watches set to British Summer Time, which is 1 hour behind French Summer Time. So our watches will say 18.09 when the gate opens and 23.54 when it closes.

We can enter the Harbour then, as long as we arrive between 18.09 BST and 23.54 BST but we need to remember that our table reservation is at 21.00 local time, so we need to be at the restaurant when our watch says 20.00 BST or we may be disappointed.

4.26 ST VAAST-LA-HOUGUE

Manche 49°35'.17N 01°15'.41W (Jetty head) 🏶

CHARTS AC 2613, 2135; SHOM 7422, 7120, 7090; Navi 527, 528; Imray C32

TIDES -0240 Dover; ML 4-1; Duration 0530

Times				H	aight (me	etres)	
High Water Low Water		MHWS	MHWN	MLWN	MLWS		
0300	1000	0400	1000	6-4	5-1	2.6	1.1
1500	2200	1600	2200				
Differen	ces ST V	AAST-I	A-HOU	GUE			
+0115	+0045	+0120	+0110	+0.3	+0-3	-0-2	-0.1

SHELTER Excellent in marina especially in W'lies. If full, or awaiting entry, ‡ off between brgs of 330° and 350° on jetty It, but this ± becomes untenable in strong E-S winds.

NAVIGATION WPT 49°34'.36N 01°13'.88W (Le Gavendest buoy) 310°/1.3M to main jetty lt, Oc (2) WRG 6s; appr in its wide, well marked W sector, dries 1.8m. Beware boats at ‡ and cross-currents. 'Le Run' appr is only feasible (over extensive oyster beds) if draft <1.2m and when the entry gate is open, HW –2¼ to HW +3½. If barometer is high and Coeff 40-50, gate may close 30 mins early; and 1-1¼ hrs early if Coeff <40. Gate times are on the website.



- We need to establish the speed and direction of tide streams in order to navigate in tidal waters or to work out an efficient passage plan.
- You will find 'Tidal Diamonds', like diamond 'B' circled at the top of the chart, scattered around our charts.
- Tidal diamonds are locations for tide stream information, speed and direction of the current.
- Speed and direction is tabulated, bottom right corner of the chart, for each hour of the tidal cycle.
- The information has to be referenced to a port, in this case St. Helier, in Jersey.
- We are given the direction of the current as a true bearing plus the speed of the current at the average spring tide and at the average neap tide.
- The chart shows that the tide stream at location B will have a direction of 090 degrees true with a speed of 3.4 knots at Springs or 1.6 knots at neaps, when it is High Water at St. Helier.



- Most navigators prefer to use a pictorial representation of the tide information.
- Opposite is a page from a Tidal Stream Atlas for the Channel Islands. The atlas comprises a single A4 page for each hour of the tidal cycle.
- The page shown shows the situation when it is High Water at St. Helier, Jersey.
- Direction of the tide stream is shown by the arrows, the bolder the arrow the stronger the stream.
- Strength of the stream is represented by two numbers. The larger number is the speed of the tide at the average spring tide while the smaller number is the speed at the average neap tide. Both numbers are tenths of knots.
- The current six miles north of Cherbourg is running due east(090 degrees true) 1.3 knots at neaps or 3.2 knots at springs.
- To put real time to the information we need to know the time of High Water at St Helier.



- The tide table opposite is covered in information.
- It tells us that St. Helier is in in time zone UT and, therefore, that all of the times on the page are in UT, the British standard time.
- We can use them immediately in winter but will need to add one hour in summer to turn the times into BST, British Summer Time.
- We are given the times and heights of high and low waters for each day of the year.
- The dates of the neap tides are shown in blue and the dates of the spring tides in red.
- They align closely with the timing of new and full moons, also shown.
- The difference between the height of high and low water on each tide cycle is the Range of Tide.
- The range of tide is the amount that the tide will rise or fall in the given cycle and has a direct relationship to the speed of the tide stream.

STANDARD TIME (UT) For Summer Time add ONE hour in non-shaded areas	ST HELIER LAT 4 TIMES AND HEIGHTS OF H	9°11'N LONG 2°07'W IGH AND LOW WATERS		
JANUARY	FEBRUARY	MARCH		
Time m Time m	Time m Time m	Time m Time m		
1 0443 3.4 1025 9.0 F 1707 3.6 2255 8.5 16 0455 2.4 1041 10.0 SA 1724 2.4 0 2308 9.5	1 0521 3.9 1103 8.2 M 1745 4.1 Q 2337 7.9 16 0621 3.3 1211 8.6 TU 1856 3.5	1 0441 3.5 1016 8.5 TU 1657 3.8 2237 8.2 16 0558 3.3 1147 8.4 W 1829 3.7		
2 0525 3.9 1111 8.4 SA 1753 4.0 2250 8.1 17 0547 2.9 1135 9.3 SU 1819 2.9	2 0619 4.3 1206 7.8 TU 1852 4.4 17 0046 8.4 0740 3.7 W 1339 8.2 2022 3.8	2 0526 4.1 1104 8.0 W 1750 4.3 2341 7.7 17 0017 8.2 0717 3.9 TH 1318 7.9 1959 4.0		
3 0620 4.3 1213 8.0 SU 1855 4.3 18 0006 9.0 0650 3.3 M 1243 8.8 1928 3.3	3 0058 7.7 0739 4.5 W 1337 7.7 2021 4.4 18 0219 8.3 0912 3.6 TH 1512 8.4 2149 3.4	3 0637 4.4 1228 7.6 TH 1918 4.5 18 0156 8.1 0854 3.8 F 1455 8.2 2130 3.7		
4 0105 7.9 0732 4.4 M 1334 7.9 2012 4.3 TU 1405 8.7 2012 4.3 2048 3.3	4 0230 7.9 0905 4.1 TH 1501 8.1 2141 3.9 10 0342 8.8 1032 3.0 F 1622 9.0 2258 2.8	4 0126 7.7 0812 4.3 F 1415 7.8 2057 4.1 19 0323 8.5 1013 3.2 SA 1604 8.8 2239 3.0		
5 0223 8.1 0850 4.2 TU 1447 8.2 2124 3.9 220 0243 8.8 0930 3.2 W 1525 8.9 2203 3.0	5 0337 8.6 1014 3.4 F 1603 8.8 2243 3.1 20 0443 9.5 1133 2.4 SA 1715 9.7 2352 2.2	50259 8.2 0937 3.6 5A 1533 8.6 2212 3.3 50 0423 9.3 1112 2.5 5U 1655 9.5 2331 2.4		
6 0324 8.5 0955 3.7 W 1545 8.6 2223 3.4 21 0356 9.3 1042 2.7 TH 1632 9.4 2309 2.5	6 0431 9.3 1111 2.6 SA 1656 9.5 2337 2.4 21 0532 10.1 1222 1.9 SU 1759 10.2	6 0403 9.1 1043 2.7 SU 1632 9.5 2312 2.4 21 0511 9.9 1159 2.0 M 1737 10.1		
7 0414 9.1 1049 3.1 TH 1634 9.2 2313 2.8 22 0456 9.9 1143 2.2 F 1727 10.0	7 0520 10.1 1203 1.9 SU 1745 10.2 22 0038 1.8 0613 10.5 M 1304 1.6 O 1838 10.5	7 0457 10.0 1140 1.8 M 1724 10.3 22 0015 2.0 0551 10.3 TU 1239 1.7 1814 10.4		
8 0458 9.7 1138 2.5 F 1719 9.8 23 0005 2.0 SA 1236 1.8 1814 10.4	8 0027 1.8 23 0117 1.6 0606 10.7 123 1.4 10 15 1830 10.8 1913 10.7	8 0005 1.6 0546 10.9 TU 1232 1.1 1812 11.0 23 0052 1.7 0626 10.6 W 1313 1.6 O 1847 10.6		
9 0000 2.3 0541 10.2 SA 1224 2.0 1802 10.2 9 1053 1.7 50 1321 1.5 0 1321 1.5	9 0114 1.3 0651 11.3 TU 1339 0.9 1915 11.2 24 0151 1.5 W 1411 1.5 1945 10.7	9 0055 1.0 0633 11.5 W 1320 0.6 1857 11.5 1918 10.7		
10 0045 2.0 0623 10.7 SU 1309 1.6 1845 10.6 25 0135 1.6 M 1400 1.5 1934 10.7	10 0158 1.0 0735 11.6 W 1422 0.7 1958 11.5 25 0220 1.5 0755 10.8 TH 1438 1.6 2014 10.6	10 0141 0.6 0718 11.9 TH 1405 0.3 1940 11.8 25 0153 1.5 0729 10.8 F 1410 1.6 1946 10.7		

- To determine an accurate tide stream speed when we are neither at Springs or Neaps, we can use the computation of rates table to be found on the inside cover of our tide stream atlas.
- From the location on the appropriate page of the Tide Stream Atlas, take the average spring and the average neap rates.
- Mark the average spring rate on the dotted 'spring' line, and the average neap rate on the dotted 'neap' line. Then draw a diagonal line through the two marks.
- From the almanac find the range of tide for that tide cycle and mark the value on the vertical 'range' scale.
- Now follow a horizontal line from the range to the diagonal line and then go up, or down, vertically to the value on the Rate scale. You now have the Speed of the stream appropriate to that particular Range.

